DOCUMENT RESUME

ED 267 747 IR 012 067

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TITLE	Print Station Operation. Microcomputing Working Paper Series.
INSTITUTION	Drexel Univ., Philadelphia, PA. Microcomputing Program.
REPORT NO	MWPS-A-84-15
PUB DATE	Aug 85
NOTE	6p.
AVAILABLE FROM	Working Paper Series, Microcomputing Program, Office of the Vice President for Academic Affairs, Drexel University, Philadelphia, PA 19104.
PUB TYPE	Reports - Descriptive (141)
EDRS PRICE	MF01/PC01 Plus Postage.
DESCRIPTORS	*Educational Facilities; Educational Practices; Equipment Maintenance; Higher Education; Input Output Devices; Instructional Materials; *Microcomputers; *Printing; Program Descriptions; *Services
IDENTIFIERS	Apple Macintosh; *Computer Printers; *Drexel University PA

ABSTRACT

During the academic year 1983-84, Drexel University instituted a new policy requiring all incoming students to have access to a microcomputer. The computer chosen to fulfill this requirement was the Macintosh from Apple Computer, Inc. Although this requirement put an additional financial burden on the Drexel student, the university administration felt that resultant educational gains far outweighed this cost. On the other hand, staff and faculty alike were determined to keep any additional computer-related costs to a minimum. As part of this effort, print stations were set up throughout the campus so that students would not need to buy their own printers. The university pays all costs related to these print facilities. The printer provided for student use is the Imagewriter from Apple Computer, Inc. This paper describes the set up of the print stations, hours of operation, usage statistics, and repair and service provided by the Equipment Support Group (ESG). (THC)

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Print Station Operation

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MWPS A 84-15
August, 1985

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In the Fall of 1982, Drexel University instituted the requirement that all entering students must have personal access to a microcomputer. This guaranteed that students would be able to use their own computers at all times and without having to go to some centralized facility. The microcomputer required for all Drexel students was the Macintosh. Although this requirement put a small additional financial burden on the Drexel student, the University administration felt that resultant educational gains far outweighed this cost.

On the other hand, staff and faculty alike were determined to keep any additional computer-related costs to a bare minimum. As part of this effort, print stations were set up throughout the campus so that students would not need to buy their own printers. The University pays all costs related to these print facilities. The printer provided for student use isthe Imagewriter from Apple Computer, Inc.

Set Up

To provide access to printers, Drexel University has approximately 80 printers in print stations throughout the campus. Large clusters of printers are located in the main library, in a centrally located dormitory, and in two major classroom buildings. (Any student with a current Drexel ID may use the print stations in the library and classroom buildings; however, only residents of Drexel housing may use the print stations in the dormitory.) All printing services are offered free of charge. With the exception of the dormitory location, the Office of Computing Services assigns student consultants to the print stations to help users who are having problems.

All printers are physically secured. The dormitory print station also has electronic security.

The print stations in the classroom buildings and the library are generally open a total of 87 hours per week:

Monday-Friday	8 am - 10 pm
Saturday	10 am - 6 pm
Sunday	12 pm - 9 pm

The dormitory print station is open 24 hours every day.

When the print stations were established, a major concern was to monitor the degree of editing work which the students performed at the stations. It is very tempting to do editing at a machine with a printer attached to it; yet, by allowing students to do extensive editing work at the print stations, the number of students who would be able to print documents would be severely limited. In response to this dilemma, the print stations were installed on furniture which required the user to stand. In addition, the computer keyboards were removed from each Macintosh that was attached to a printer so that students could not use that computer to edit their work. (On the Macintosh, a user does not need the keyboard in order to print out a single copy of a document or file - he can use the mouse to point and give the print commands.) Unfortunately, this solution created a new problem: a keyboard is necessary to print multiple copies of a document, or isolated portions of a document (i.e., pages 4-8). Furthermore, students could not easliy correct mistakes in their work without the keyboard and were often forced to travel to an editing station in another building. Consequently, this initial policy was amended. Keyboards were returned to each Macintosh associated with a printer and "editing" Macs were set up in some of the print facilities.

Usage

After four academic terms (Spring and Fall 1984 and Winter and Spring 1985), we have accumulated the following statistics for the print station located in the library, which contains 16 printing units:

- an average of 10,000 students used the print station over a ten-week term (about 1,000 students per week)
- print station usage was continually heavy from the 3rd week of the term through the 10th (final) week of the term
- a typical student spent approximately 30 minutes printing out his work
- maximum use was between 9 am and 3 pm each day

Although the Summer term is a regular academic term at Drexel University, only data collected during Summer 1984 are available at this time. The statistics recorded for the library print station during the Summer 1984 indicate that students used the station much less during this term than during the Fall, Winter, or Spring terms. (One possible reason for this drop may be that Summer 1984 was the first full summer of the microcomputing program. Only freshman had Macintoshes that summer and freshmen normally vacation or begin their first co-operative work experience during the Summer term.)

Surprisingly, usage of the library print station did not show a marked increase in Fall 1985 when the new class of freshmen received their machines, increasing the number of on-campus machines to over 4,000. This may be because fifty percent of the 1800 students who entered Drexel in the Fall 1985 chose to purchase their own printers, as did a large number of the previous year's freshmen who were able to purchase a printer through the University just before the Fall '85 term began. Consequently, although more students at Drexel owned computers, not all of them needed to print out their work at the University print stations.

Repair and Service

Drexel's Equipment Support Group (ESG) repairs printers and supplies printer ribbons and paper to the print stations on campus. During the academic year 1984-85, approximately 900 printer ribbons and 1200 cartons of paper (2700 sheets per carton) were used in University-supported print stations. New ribbons were installed periodically in all facilities except those in the dormitory area. (The ESG re-inks ribbons for use in this area since the facility is not attended and theft is more likely to occur there.)

Maintenance on the Imagewriter printers has been minimal. Although the printing of high resolution graphics certainly takes the highest toll on printers (and Drexel students do spend quite a bit of time printing graphics), the machines have held up well. They presented no particular maintenance problems, and no one part seemed to be particularly vulnerable. All of the original printers installed in the print stations are still in operation 18 months later.

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